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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/214,519	01/07/1999	TOSHIAKI HASHIZUME	101850	8609

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OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER

LEROUX, ETIENNE PIERRE

ART UNIT	PAPER NUMBER
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2171

38

DATE MAILED: 08/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/214,519

Applicant(s)

Hashizume et al

Examiner

Etienne P LeRoux

Art Unit

2171



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jul 14, 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Jan 7, 1999 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Art Unit: 2171

Finality Vacated

The finality of the previous office action is hereby vacated.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by US Pat No 5,734,454 issued to Omae et al (hereafter Omae '454).

Regarding claims 1 and 4, Omae '454 discloses:
an optical modulation device [Fig 1, 13 and Fig 22, 152 and col 8, lines 31-38]

Art Unit: 2171

a transparent plate [Fig 1, 11, Fig 22, 153] bonded to at least one surface of the optical modulation device, the transparent plate being bonded substantially the length of at least one surface of the optical modulation device [Fig 1 and Fig 22]

Regarding claim 4, Omae '454 discloses a light source [Fig 22, 171], a projection unit [Fig 22, 174]

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omae '454 as applied to claims 1 and 4 above, and further in view of US Pat No 5,508,834 issued to Yamada et al (hereafter Yamada '834).

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was

Art Unit: 2171

made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Regarding claims 2 and 9, Omae '454 discloses the essential elements of the claimed invention as noted above except for a polarizer bonded to the transparent plate. Yamada discloses a polarizer bonded to the transparent plate [Fig 5, 8]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Omae'454 to include a polarizer bonded to the transparent plate for the purpose of providing polarized light energy to the modulator.¹

Regarding claim 6, Omae '454 discloses the essential elements of the claimed invention as noted above except for the transparent plate thickness is larger than the focal depth of the projection unit. Yamada discloses the transparent plate thickness is larger than the focal depth of the projection unit [col 4, lines 15-25]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Omae'454 to include the transparent plate thickness is larger than the focal depth of the projection unit as taught by Yamada '834 for the purpose of preventing dust or fluff causing an adverse effect on the image quality [col 4, lines 15-24]

Regarding claim 7, Omae '454 discloses the essential elements of the claimed invention as noted above except for the transparent plate is made of resin, a polarizer between the transparent

¹ Refer Pub No US 2003/0147137 issued to Li, paragraphs 0003 and 0004

Art Unit: 2171

plate and the projection unit. Yamada '834 discloses the transparent plate is made of resin [col 6, line 60], a polarizer [Fig 7, 9] between the transparent plate [Fig 7, 7] and the projection unit [Fig 2, 209]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Omae '454 to include the transparent plate is made of resin [col 6, line 60], a polarizer [Fig 7, 9] between the transparent plate [Fig 7, 7] and the projection unit [Fig 2, 209] as taught by Yamada '834 for the purpose of providing a projection apparatus.

Regarding claim 8, Omae '454 discloses the essential elements of the claimed invention as noted above except for the polarizing layer is sandwiched between substrates. Yamada discloses the polarizing layer [Fig 6, 8] is sandwiched between substrates [Fig 6, 6 and Fig 6, 2]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Omae '454 to include the polarizing layer [Fig 6, 8] is sandwiched between substrates as taught by Yamada '836 for the purpose of supporting the polarizing layer adjacent to the liquid crystal.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Omae '454 in view of USPAT 5,865,521 to Hashizume et al (hereafter Hashizume).

Regarding claim 5, Omae '454 discloses the essential elements of the claimed invention except for an antireflection film formed on at least one surface of the transparent plate. Hashizume discloses an antireflection film [Fig 12, 632]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Omae '454 to include the

Art Unit: 2171

antireflection film as taught by Hashizume for the purpose of eliminating reflections from the substrate in order to provide an efficient reflection-type liquid crystal device [col 21, lines 10-55].

5. Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omae '454 in view of USPAT 3,910,682 to Arai et al (hereafter Arai).

6. Regarding claims 3 and 10, Omae '454 discloses the essential elements of the claimed invention except for the transparent plate being coated with a surface active agent. Arai discloses a transparent plate being coated with a surface active agent [Fig 2, 2]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Omae '454 to include a transparent plate being coated with a surface active agent as taught by Arai for the purpose of omitting the washing step [col 2, lines 45-55].

7. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omae '454 in view of USPAT 5,868,485 to Fujimori et al (hereafter Fujimori '485).

Regarding claims 11, Omae '454 discloses the essential elements of the claimed invention except for a color synthesizing prism, a mounting frame plate composed of a first frame member, a second frame member that sandwich said optical modulation device, a fixed frame plate in a fixed contact with a light incident surface of said color synthesizing prism, an intermediate frame plate sandwiched between said mounting frame plate and said fixed frame plate. Fujimori '485 discloses a color synthesizing prism [Fig 5, 22], a mounting frame plate composed of a first frame

Art Unit: 2171

member [Fig 5, 52], and a second frame member [Fig 5, 55] that sandwich said optical modulation device [Fig 5, 40R], a fixed frame plate [Fig 5, 54] in a fixed contact with a light incident surface of said color synthesizing prism, an intermediate frame plate sandwiched [Fig 5, 53] between said mounting frame plate and said fixed frame plate. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Omae '454 to include a color synthesizing prism, a mounting frame plate composed of a first frame member, a second frame member that sandwich said optical modulation device, a fixed frame plate in a fixed contact with a light incident surface of said color synthesizing prism, an intermediate frame plate sandwiched between said mounting frame plate and said fixed frame plate as taught by Fujimori '485 for the purpose of mounting the liquid crystal panel unit [Fig 5].

Regarding claim 12, Omae '454 discloses the essential elements of the claimed invention except for the mounting plate being made of resin. Fujimori '485 discloses the mounting frame plate being made of resin [col 10, line 15]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Omae '454 to include the mounting plate being made of resin as taught by Fujimori '485 for the purpose of using a mounting plate which can be easily manufactured.

Regarding claim 13, Omae '454 discloses the essential elements of the claimed invention except for a metal mounting frame. Fujimori '485 discloses a metal mounting frame [col 10, lines 40- 48]. It would have been obvious to one of ordinary skill in the art at the time the invention

Art Unit: 2171

was made to modify Omae '454 to include a metal mounting plate as taught by Fujimori '485 for the purpose of using a mounting plate which can withstand high heat.

Claims 14-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPAT 6,007,205 to Fujimori (hereafter Fujimori '205) in view of Yamada.

Regarding claims 14 and 19, Fujimori '205 discloses: a light source [Fig 7, 8], a plurality of optical modulation devices [Fig 12, 925R, 925G, 925B] that modulate a light flux emitted from the light source according to image information, a prism [Fig 11, 910] that synthesizes the light flux modulated by said plurality of optical modulation devices and said prism from said light source and said projection unit, a projection unit [Fig 8, 6] that magnifies and projects the light flux synthesized by said prism, a partition [Fig 12, 1500] that surrounds said plurality of optical modulation devices and said prism via an air layer [Fig 12] and thereby separates said plurality of optical modulation devices and said prism from said light source and said projection unit, a light outgoing window [Fig 8], a power supply unit [Fig 2, 7], an interface circuit [Fig 2, 11], a control circuit [Fig 2, 12], an outer casing [Fig 1A, 2]

Regarding claim 14, Fujimori '205 discloses the essential features of the claimed invention except for a transparent plate fitted in a light incident window. Yamada discloses a transparent plate fitted [Fig 5, 6] fitted in a light incident window. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fujimori '205 to include a

Art Unit: 2171

light incident window fitted with a transparent plate as taught by Yamada for the purpose of reducing the adverse effect of foreign matter on the image quality [col 4, lines 20-24].

Regarding claim 15, Fujimori '205 discloses a fan [Fig 9, 15B]

Regarding claim 16, Fujimori '205 discloses the essential elements of the claimed invention except for a polarizer bonded to a transparent plate. Yamada discloses a polarizer [Fig 5, 8] bonded to a transparent plate [Fig 5, 6]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fujimori '205 to include a polarizer bonded to a transparent plate as taught by Yamada for the purpose of reducing the adverse effect of foreign matter on the image quality [col 4, lines 20-24].

Regarding claim 17,

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Fujimori '205 and Yamada as applied to claim 14, and further in view of USPAT 3,910,682 to Arai.

Regarding claim 17, the modified teaching of Fujimori '205 discloses the essential elements of the claimed invention except for the transparent plate being coated with a surface active agent. Arai discloses a transparent plate being coated with a surface active agent [Fig 2,2]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Fujimori '205 to include the transparent plate being coated with a surface active agent as taught by Arai for the purpose of omitting the washing step [col 2, lines 45-55].

Art Unit: 2171

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada in view of Fujimori '205.

Regarding claim 18, Yamada discloses a light source [Fig 2, 208], an optical modulation device [Fig 2, Fig 7, Fig 5, 1 and col 1, lines 33-46 and col 1, lines 60-67] that modulates a light flux emitted from the light source according to image information, a transparent plate [Fig 5, 6] bonded substantially the length of the light emitting surface of said optical modulation device.

Regarding claim 18, Yamada discloses the essential features of the claimed invention except for a power supply unit, an interface circuit, a control circuit that controls the optical modulation device, and an outer casing that accommodates the light source, the optical modulation device, the transparent plate, the power supply unit, the interface circuit, and the control circuit. Fujimori '205 discloses a power supply unit [Fig 2, 7], an interface circuit [Fig 2, 11], a control circuit [Fig 2, 12] that controls the optical modulation device, and an outer casing [Fig 1A, 2] that accommodates the light source, the optical modulation device, the transparent plate, the power supply unit, the interface circuit, and the control circuit. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Yamada to include a power supply unit, an interface circuit, a control circuit that controls the optical modulation device, and an outer casing that accommodates the light source, the optical modulation device, the transparent plate, the power supply unit, the interface circuit, and the control circuit as taught by Fujimori '205 for the purpose of providing a projection display apparatus.

Art Unit: 2171

Response to Arguments

8. Applicant's arguments filed 7/14/03 in the non-entered amendment have been fully considered but they are not persuasive.

Examiner provides above new rejection of the claim 1 limitation "a transparent plate bonded at least to one surface of the optical modulation device." The new rejection shows that Omae '454 anticipates the claim 1 limitation "a transparent plate bonded at least to one surface of the optical modulation device."

The following response by examiner to Applicant's arguments filed 1/24/2003 remain of record.

Applicant states on page 4 "Yamada does not disclose, teach or suggest an optical modulation apparatus comprising, inter alia, an optical modulation device and a transparent plate, the transparent plate being bonded substantially the length of the at least one surface of the optical modulation device as recited in claim 1. Further, Yamada does not disclose, teach, or suggest a projector comprising, inter alia, an optical modulation device and a transparent plate bonded substantially the length of a light emitting surface of said optical modulation device as recited in claims 4, 18 and 19." Examiner is not persuaded. Examiner maintains that Yamada's Figure 5 reads on the above claim 1 limitations. In particular, Figure 5, shows the transparent cover member 6 is substantially bonded to the liquid crystal cell 1 along substantially at least one surface. Further, in response to applicant's arguments against the references individually (Yamada

Art Unit: 2171

does not disclose a projector), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant states on page 4 “[i]nstead Yamada, as shown in Figures 5, 6 and 8, and described at col 3, line 56 to col 4, line 39, and col 5, lines 52-66, discloses transparent cover members/plates 6, 7 attached only to portions (e.g., top and bottom) of a liquid crystal cell 1. Further, because of this arrangement, in Yamada, an air gap is created between the plates 6, 7 and the liquid crystal cell 1. The air gap acts as a heat insulating layer. Thus, the device in Yamada does not provide the advantage of reducing heat generated in the optical modulation device and of helping to reduce the deterioration of the optical properties of the optical modulation device. Examiner is not persuaded. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., reducing heat generated in the optical modulation device) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Furthermore, per above arguments by examiner, examiner maintains Yamada teaches in Figure 5, a transparent cover member 6 which is bonded substantially the length of the at least one surface of the optical modulation device 1.

Art Unit: 2171

Applicant states on page 4, “[f]urther, regarding claim 14, Fujimori 205, singularly or in combination with Yamada, does not teach or suggest a partition having a transparent plate fitted in a light incident window corresponding to a light incident surface of at least one optical modulation device, as recited in claim 14. Examiner is not persuaded. Examiner maintains supra office action clearly identifies Fujimori’s teaching relevant to the optical modulation device and Yamada’s teaching pertaining to the transparent plate fitted in a light incident window. The transparent cover member 6 functions as a light incident window so that light rays can be transmitted to the liquid crystal 1.

Applicant states on page 4 “[i]nstead, Fujimori 205 at col 15, lines 19-36 and in Fig. 12, discloses a dustproof box 1500 having square openings 1501-1503 provided on the walls of the box 1500. Each of the openings 1501-1503 is closed in an airtight state by means of polarizing plates 981-983. This is different than the claimed invention of a partition having a transparent plate fitted in a light incident window. Further, neither Fujimori 205 nor Yamada provide any motivation to modify their structure to achieve the claimed invention.” Examiner is not persuaded. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Notwithstanding above arguments by Applicant, examiner maintains Yamada teaches in Figure 5, a transparent cover member 6 which is “bonded substantially the length of the at least one surface of the optical

Art Unit: 2171

modulation device.” Still, further, as included in supra office action, the motivation for joining the references (i.e., reducing the adverse effect of foreign matter on the image quality) is taken from Yamada’s disclosure in column 4, lines 20-24,

Applicant states on page 5, moreover, neither Hashizume nor Fujimori 485 or Arai make up for the deficiencies of the applied art discussed above. Examiner is not persuaded. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant states on page 5, “[n]either Yamada, Hahizume, Fujimori 485, Arai or Fujimori 205 show any motivation to modify their structure to achieve the claimed invention, and the Office Action clearly admits that there is at least a part of the claimed subject matter missing in Yamada. Examiner is not persuaded. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Furthermore, the motivation to modify the structure of the references is clearly stated in supra office action.

Art Unit: 2171

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Etienne (Steve) LeRoux whose telephone number is (703) 305-0620.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic, can be reached at (703) 308-1436.

Any inquiry of a general nature relating to the status of this application or processing procedure should be directed to the receptionist whose telephone number is (703) 305-3900.

Etienne LeRoux

August 7, 2003



SAFET METJAHIC
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100